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4 Aprior	mation Disclosure Statement by Applicant	Alex S. Goldenberg et al.	
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	3,623,046	11/23/1971	Scourtes				
	4,811,921	03/14/1989	Whitaker et al.				
	5,172,092	12/15/1992	Nguyen et al.				
	5,389,849	02/14/1995	Asano et al.				
	5,435,729	07/25/1995	Hildreth et al.				
	5,437,608	08/01/1995	Cutler				
	5,731,804	03/24/1998	Rosenberg				
	5,691,898	11/25/1997	Rosenberg et al.				
	5,629,594	05/13/1997	Jacobus et al.				
	5,952,806	09/14/1999	Muramatsu				
	6,216,059	04/10/2001	lerymenko				
	6,246,390	06/12/2001	Rosenberg				
	6,256,011	07/03/2001	Culver				
	6,424,356	07/23/2002	Chang et al.				
	6,448,977	09/10/2002	Braun et al.				
	6,636,197	10/21/2003	Goldenberg et al.				
	7,061,467	06/13/2006	Rosenberg				
	4,262,240	04/14/1981	Arai				
	4,382,217	05/03/1983	Horner et al.				
	4,422,060	12/20/1983	Matsumoto et al.				
	5,184,310	02/02/1993	Takenouchi				
	5,194,786	03/16/1993	Smith et al.				
	5,334,893	08/02/1994	Oudet et al.				
	5,456,341	10/10/1995	Garnjost et al.				
	5,492,312	02/20/1996	Carlson				
	5,554,900	09/10/1996	Pop, Sr.				
	5,649,020	07/15/1997	McClurg et al.				
	5,650,704	07/22/1997	Pratt et al.				
	5,734,236	03/31/1998	Motegi	19/23/2007 0000	And continuous		
	6,057,753	05/02/2000	Myers	10/23/2007 ANH		291638	1067
	6,686,901	02/03/2004	Rosenberg	01 f C: 1896	180.00 DA		
	4,334,280	06/08/1982	McDonald				_
	4,355,348	10/19/1982	Williams				
	5,907,212	05/25/1999	Okada				

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Form PTO 1449 (Rev. 2-32) U.S. Department of Commerce Patent and Trademark Office				Atty. Docket No. Serial No. 10/671,465 (034701-562)				
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	6,680,729	01/20/2004	Shahoian et	al.				
	6.693,622	02/17/2004	Shahoian et	al.				
	6,437,771	08/20/2002	Rosenberg e	t al.				
	6,704,001	03/09/2004	Schena et a	al.				
	2002/0030663	03/14/2002	Tierling et a	al.				
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	Russo, Massimo And Mechanical Engineer		ign and Implementatio 1990, 131 pages.	n of a Three Deg	gree of Freedom	Force Output Jo	ystick," D	ept. of
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TATEMENT BY APPLICANT		September 29, 2003	
. 0 4 14	First Named Inventor	Alex S. GOLDENBERG	
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INFORMATION DISCLOSURE
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Application Number	Unknown			
Filing Date	September 29, 2003			
First Named Inventor	Alex S. GOLDENBERG			
Group Art Unit	2673			
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nitials*	Cite No. Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country	T
	where published. where published.	ľ
	CAN Balarie, "Florting Control Loading A.L.	
	where published. Baigrie, "Electric Control Loading - A Low Cost, High Performance Alternative," Proceedings of Interservice/Industry Training Systems Conference, pp. 247-254, November 6-8, 1990	_
ł		
	131 January 1 Triual Environment," 0-7803-1363-1/93 IEEE, pp. 287-292, 1993	
	(C3) Russo, "The Design and Implementation of a II.	
	Russo, "The Design and Implementation of a Three Degree of Freedom Force Output Joystick," MIT Libraries Archives pp. 1-131, May 1990, archived 8/14/90	
	(C4.) Brooks et al. "Hand Controller for Tale	
	Brooks et al., "Hand Controllers for Teleoperation - A State-of-the-Art Technology Survey and Evaluation," JPL Controllers for Teleoperation - A State-of-the-Art Technology Survey and Evaluation," JPL Lines et al. "A second of the controllers for Teleoperation - A State-of-the-Art Technology Survey and Evaluation," JPL Lines et al. "A second of the controllers for Teleoperation - A State-of-the-Art Technology Survey and Evaluation," JPL	_
	C5 Jones et al. "A permentual apply in (16:35), 1995, 1-84, 03/1/1985	
	Jones et al., "A perceptual analysis of stiffness," ISSN 0014-4819 Springer International (Springer-Verlag); Experimental Brain Research, Vol. 79, No. 1, pp. 150-156, 1990	
	Chi Burden et al. "Distributed Victoria Co. III	
1 1	Burdes et al., "Distributed Virtual Force Feedback, Lecture Notes for Workshop on Force Display in Virtual Environments and its Application to Robotic Teleoperation," 1993 IEEE International Conference on Robotics and Automation, pp. 25-44, 05/02/1993	
	Automation, pp. 25-44 05/07/1003	
	(C) Snow et al., 'Model-X Force Reflecting-Hand-Controller "ATT C.	
	45 pages of attachmente Of 1 5/1000 1 and Collection, N1 Control No. NPO-17851; JPL Case No. 7348 pp. 1-4 with	
	(C8)) Out-Young, "Force Display in Molecular Deading To	
	UMI Order No. 9034744 - 1.300 1000 DOCKING, DOCKING, University of North Carolina at Charel Hill	-
	(C) Tadres, "Control System Design Design for The D.	
1 .		
	Actuators," MIT Archive, pp. 1-88, February 1990, archived 8/13/90 Caldwell et al., "Enhanced Tactile Footback Class"	
j i	Caldwell et al., "Enhanced Tactile Feedback (Tele-Taction) Using a Multi-Functional Sensory System," 1050-4729/93, pp. 955-960, 1993	
T - 1	Adelstein et al., "Design and implementation of a Force Reflecting Machine Inc."	
1 1	Adelstein et al., "Design and Implementation of a Force Reflecting Manipulandum for Manual Control research," DSC-	
	Vol. 42, Advances in Robotics, pp. 1-12, 1992 C12 Gotow et al. "Control fescarch," DSC-	
	Gotow et al., "Controlled Impedance Test Apparatus for Studying Human Interpretation of Kinesthetic Feedback," WAII-11:00, pp. 332-337	_
le le	(13) Stanley et al. "Committee Simulation of Learning D	
1 1	Stanley et al., "Computer Simulation of Interacting Dynamic Mechanical Systems Using Distributed Memory Parallel Processors," DSC-Vol. 42, Advances in Robotics, pp. 55-61, ASME 1992	_
	Processors, "DSC-Vol. 42, Advances in Robotics, pp. 55-61, ASME 1992 [14] Russo, "Controlling Dissipative Magnetic Parallel Processors," DSC-Vol. 42, Advances in Robotics, pp. 55-61, ASME 1992	
	Russo, "Controlling Dissipative Magnetic Particle Brakes in Force Reflective Devices," DSC-Vol. 42, Advances in Robotics, pp. 63-70, ASME 1992	
14 K	215) Kontarinis et al. "Display of Ulist F.	
*		
4	Space Telerobotics, Won S. Kim, Editor, Proc. SPIE Vol. 2057, pp. 40-50, Sep. 7-9, 1993	
	Patrick et al., "Design and Testing of A Non-reactive, Fingertip, Tactile Display for Interaction with Remote Environments," Cooperative Intelligent Robotics in Space, Rui I designation of a little display for Interaction with Remote	
	Environments, Cooperative Intelligent Robotics in Space, Rui J. deFigueiredo et al, Editor, Proc. SPIE Vol. 1387, pp.	
1	Adestein "A Virtual Equipment C	
2		
	Mechanical Engineering, MIT, June 1989, archived 3/13/90 Mechanical Engineering, MIT, June 1989, archived 3/13/90 Release, "Sensors Controls and Mechanical Controls and Mechanical Engineering, MIT, June 1989, archived 3/13/90	
	Bejezy, "Sensors, Controls, and Man-Machine Interface for Advanced Teleoperation," Science, Vol. 208, No. 4450, pp. 1327-1335, 1980	_
No.	19 Beigg et al. "Generalization of Ditt.	
	19) Bejezy et al., "Generalization of Bilateral Force-Reflecting Control of Manipulators," Proceedings Of Fourth CISM- IFTOMM, Sep. 8-12, 1981	
1	20) McAffee et al., "Teleoperator Subsystem/Teleophy Descent	
*	McAffee et al., "Tcleoperator Subsystem/Telerobot Demonstrator: Force Reflecting Hand Controller Equipment Manual," JPL 1988, JPL D-5172	
	2h Minsky, "Computational Herica: The Col.	
1		
	Dissertation, MIT, June 1995, archived 7/6/95 Dissertation, MIT, June 1995, archived 7/6/95 Jacobsen et al. "High Description Display," Ph.D.	
XE		
	Conference & Exposition, Hollywood, Florida, May 21-23, 1991 3) Shimoga, "Finger Force and Touch Feedback May 21-23, 1991	
475	I County E. Filler Force and Touch Fandhast to	
- i(c	Conference on Intelligent Robotic Systems for Space Exploration, Rens Telemanipulation," Proceedings of Fourth Annual IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With E- IBM Technical Disclosure Bulletia, "Mouse Ball-Actuating Device With Ball-Actuating Device With Ball-Bulletia, "Mouse Ball-Bulletia, "Mouse Ball-Bulletia, "Mouse Ball-Bulletia, "Mouse Ball-Bulletia, "	
	1BM Technical Disclosure Bulletin, "Mouse Ball-Actuating Device With Force and Tactile Feedback," Vol. 32, No. 9B,	_
16	1 Variany 1970	
XIC		
1/20	Conference, University of New Hampshire, March 10-11, 1988	
16	0 \ Howe, "A Force Reflecting Telegraphy of the Land	
(6	Proceedings of the 1992 IEEE International Conference on Robotts and Automation, Nice, France, May 1992 Eberhardt et al., "OMAR - A Haptic dimlay for speech security and Automation, Nice, France, May 1992	
1/0	/ Eberhardt et al. "OMAR - A Hontin di-lan for	_
1	Reality Annual International Symposium, Seattle, WA, Sep. 18-22, 1993	

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INFORMATION DISCLOSURE	Application Number	Unknown
TATEMENT BY APPLICANT	Filing Date	September 29, 2003
STATEMENT BY APPLICANT	First Named Inventor	Alex S. GOLDENBERG
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	Examiner Name	Unassigned
Nr a TR	Attorney Docket Number	IMMR-073/02US

(ablaowitz et al. "Multidimensional tactile disclared the state of the
Rabinowicz et al., "Multidimensional tactile displays: Identification of vibratory intensity, frequency, and contractor rea," Journal of The Acoustical Society of America, Vol. 82, No. 4, October 1987
Conference, The American Society of Mechanical Forday on Remote Manipulator," International Computer Technology
ejczy et al., "A Laboratory Breadboard System For Dual-Arm Teleoperation," SOAR '89 Workshop, JSC, Houston, TX
Pulyoung et al., "A Low-Cost Force Feedback Joystick and its Use in PC Video Games," IEEE Transactions on Consumer Electronics, Vol. 41, No. 3, August 1995
larcus, "Touch Foodback in Surgery," Proceedings of Virtual Reality and Medicine The Cutting Edge Ser. 8.11.1004
ejczy, et al., "Universal Computer Control System (UCCS) For Space Telerobots," CH2413-3/87/0000/0318501.00

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Application Number	10/671,465				
Filing Date	September 29, 2003				
First Named Inventor	Alex S. Goldenberg				
Art Unit	2673				
Examiner Name	Unassigned				
Attorney Docket Number	IMMR-073/02US				

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S.M.		4,795,298	1/3/98	Jau	Figures Appear
		4,731,603	3/15/88	McRee et ai.	
1		4,708,294	11/10/87	Ouchida	
1		4,484,191	11/20/1984	Vavra	
1		4,484,112	8/7/1984	Foerst	
1		4,414,984	11/15/83	Zarudiansky	
1		4,333,070	6/1/1982	Barnes	· · · · · · · · · · · · · · · · · · ·
1-		4,262,549	4/21/1981	Schwellenbach	
		4,127,752	11/28/1978	Lowthorp	**************************************
1		3,919,891	11/11/75	Not	······································
V	-	2,972,140	2/14/1981	Hirsch	
		RE37,374	9/18/01	Roston et al.	

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		(18)	H2-185278		7/19/1990	Talto Corporation	Figures Appear
-		(4)	H4-8381		1/13/1992	Epoch Co. and Key- Planning Co.	
			H7-24147		1/27/1995	Sega Corporation	
-11		(WO)	H5-192449		8/3/1993	Talto Corporation	
		_	92/00559		1/9/1992		
-			0607580	A1	7/271994		
			0265011		4/27/1988		
	6/		0626834	A2	5/11/1994		
	24	WO	01/03105		1/11/2001		
-		(wo)	01/24158		4/5/2001		
		(WO)	97/31333		8/28/1997		
		CWO	01/13354	 	2/22/2001		
		(WO)	98/32112	 	7/23/19.98		
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet

	Complete if Known
Application Number	10/671,465
Filing Date	September 29, 2003
First Named Inventor	Alex S. Goldenberg
Art Unit	2673
Examiner Name	Unassigned
Attorney Docket Number	IMMR-073/02US

		OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS	_
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	0	PATRICK, "Design, Construction, and Testing of a Fingersp Tactile Display for Interaction with Virtual and Remote Environments," Master of Science Thesis, MIT, Aug. 1990, archived Nov. 8, 1990.	1
	V	CALDER, 'Design of A Force-Feedback Touch-introducing Actuator For Teleoperator Robot Control," Bachelor of Science Thesis, MIT, May 1983, archived June 23, 1983.	+
		WIKER, "Teletouch Display Development: Phase 1 Report," Technical Report 1230, Naval Ocean Systems Center, San Diego, July 1988.	+
	V	BLISS, "Optical-to-Tactile Image Conversion for the Blind," IEEE Transactions on Man-Machine Systems, Vol. MMS- 11, No. 1, March 1970.	t
	VO	MOTINSON, "Shape-Memory Alloy Tactile Feedback Actuator," Armstrong Aerospace Medical Research Laboratory, AAMRL-TR-90-039, August, 1990.	+
	1	KONTARINIS et al., "Tactile Display of Vibratory Information in Teleoperation and Virtual Environments," PRESENCE, 4(4):387-402, Harvard Univ., 1995.	-
	V	AUKSTAKALNIS et al., "Silicon Mirage: The Art and Science of Virtual Reality," ISBN 0-938151-82-7, pp. 129-180,	-
	$\sqrt{}$	EBERHARDT et al., "Inducing Dynamic Haptic Perception by The Hand: System Description and Some Results," DSC-Vol. 55-1, Dynamic Systems and Control: Volume 1, ASME 1994.	
	VO	8ÓBEL et al., "Tactile Feedback Applied to Computer Mice," International Journal of Human-Computer Interaction, Vol. 7, No. 1, pp. 1-24, 1995.	
	VOY	PIMENTEL et al., "Virtual Reality: through the new looking glass," 2 rd Edition; McGraw-Hill, ISBN 0-07-050167-X, pp.	
V		*Cyberman Technical Specification,* Logitech Cyberman SWIFT Supplement to Logitech Mouse Technical Reference and Programming Guide, 4/5/1994.	_
	Yg.	OUHYOUNG et al., "The Development of A Low-Cost Force Feedback Joyatick and its Use in the Virtual Reality Environment," Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95, Seoul, Korea, 21-24 August 1995.	_
	- M	KACZMAREK et al., "Tactile Displays," Virtual Environment Technologies, Chap. 9, pp. 349-414.	
		AKE, "Cyberman from Loghech," at http://www.biblio.org/GameBytes/Issue21/greviews/cyberman.html, 1994.	
N.	1 .	Component Maintenance Manual With Bustrated Parts List, Coaxdel Control Shaker Part no. C-25502," Safe Flight instrument Corporation, Revised 28 January 2002 (3 pages).	_

ı	Examiner			
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•			Considered	07/06/2006
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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2673 (use as many sheets as necessary) **Examiner Name** Unassigned Sheet 5 of 6 **Attorney Docket Number** IMMR-073/02US

		OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS
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\forall	٠٠٠	"Technical Manual Overhaul Instructions With Parts Breakdown, Coaxial Control Shaker Part no. C-25502;" Safe Flight Instrument Corporation, Revised 15 July 1980 (23 pages).
	1	SCANNELL, "Taking a Joystick Ride," Computer Currents, Boston Edition, Vol. 9, No. 11, November 1994
	V	YAMAKITA et al., "Tole-Virtual Resilty of Dynamic Mechanical Model," Proceedings of the 1992 IEEE/RSJ International Conference on Intelligent Robots and Systems, Releigh, NC, July 7-10, 1992
	V	NOLL, "Man-Machine Tactile," SID Journal, July/August 1972 (ssue.
	V	ROSENBERG, "Virtual Fotures: Perceptual Overlays Enhance Operator Performance in Telepresence Tasks," Ph.D. Dissortation, Stanford University, June 1994.
	V	SCHMULT, Brian et al., "Application Areas for a Force-Feedback Joystick," ASME 1993, DSC-Vol. 49, pp. 47-54.
	√	HASSER, Christopher John, "Tactile Feedback for a Force-Reflecting Haptic Display," The School of Engineering, University of Dayton, December 1995, pp. Ill-xil &1-96.
		AKAMATSU, M. et el., "Multimodal Mouse: A Mouse-Type Device with Tactile and Force Display," Presence, Vol. 3, No. 1, 1994, pp. 73-80.
	V	KELLEY, A. J. et al., "MagicMouse: Tactile and Kinesthetic Feedback in the Human-Computer Interface using an Electromagnetically Actuated Input/Output Device," Dept. of Elec. Eng., Univ. of Brit. Columbia, 1993, pp. 1-27.
	V 1	HASSER, C. et al., 'Tactile Feedback with Adaptive Controller for a Force-Reflecting Haptic Display,' Parts 1&2, IEEE 0-7803-3131-1, 1996, pp. 526-533.
	Y	RAMSTEIN, C., "Combining Haptic and Braille Technologies: Design Issues and Pilot Saudy," ASSETS '96, 2nd Annual ACM Conf. on Assistive Technologies, 1996, pp. 37-44.
,	v 1	DENNERLEIN, et al., "Vibrotactile Feedback for Industrial Telemanipulators," ASME BAECE, 8th Annual Symp. On Haptic Interfaces for Virtual Environment and Teleoperator Systems, Nov. 1997, pp. 1-7.
	V	MBNSKY, Margaret et al., "Feeting and Seeing: Issues in Force Display," ACM 089791-351-5, 1990, pp. 235-242.
	• ,	DUH-YOUNG, M. et al., "Creating an illustion of Feet: Control lasues in Force Display," Computer Science Dept., Iniversity of North Caroline, 1989, pp. 1-14.
1	11	ASSER, C., "Force-Reflecting Anthropomorphic Hand Masters," AL/CF-TR-1995-0110, 1995, pp. 5-31.

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Examiner nitials*	Cite No.	include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T'
	Cı	Balgrie, "Electric Control Loading - A Low Cost, High Performance Alternative," Proceedings of Interservice/Industry Training Systems Conference, pp. 247-254, November 6-8, 1990	\vdash
	C2	Iwata, "Pen-based Haptic Virtual Environment," 0-7803-1363-1/93 IEEE, pp. 287-292, 1993	\vdash
	СЗ	Russo, "The Design and Implementation of a Three Degree of Freedom Force Output Joystick," MIT Libraries Archives pp. 1-131, May 1990, archived 8/14/90	-
	C4	Brooks et al., "Hand Controllers for Teleoperation - A State-of-the-Art Technology Survey and Evaluation," JPL Publication 85-11, NASA-CR-175890; N85-28559, pp. 1-84, 03/1/1985	_
	C5	Jones et al., "A perceptual analysis of stiffness," ISSN 0014-4819 Springer International (Springer-Verlag); Experimental Brain Research, Vol. 79, No. 1, pp. 150-156, 1990	
	C6	Burdea et al., "Distributed Virtual Force Feedback, Lecture Notes for Workshop on Force Display in Virtual Environments and its Application to Robotic Teleoperation," 1993 IEEE International Conference on Robotics and Automation, pp. 25-44, 05/02/1993	
	C7	Snow et al., 'Model-X Force-Reflecting-Hand-Controller," NT Control No. NPO-17851; JPL Case No. 7348, pp. 1-4 with 45 pages of attachments, 06/15/1989	
	C8	Ouh-Young, "Force Display in Molecular Docking," Doctoral Dissertation, University of North Carolina at Chapel Hill, UMI Order No. 9034744, p. 1-369, 1990	
	C9	Tadros, "Control System Design for a Three Degree of Freedom Virtual Environment Simulator Using Motor/Brake Pair Actuators," MIT Archive, pp. 1-88, February 1990, archived 8/13/90	
	C10	Caldwell et al., "Enhanced Tactile Feedback (Tele-Taction) Using a Multi-Functional Sensory System," 1050-4729/93, pp. 955-960, 1993	
	CII	Adelstein et al., "Design and Implementation of a Force Reflecting Manipulandum for Manual Control research," DSC-Vol. 42, Advances in Robotics, pp. 1-12, 1992	
	C12	Gotow et al., "Controlled Impedance Test Apparatus for Studying Human Interpretation of Kinesthetic Feedback," WAII-11:00, pp. 332-337	
	C13	Stanley et al., "Computer Simulation of Interacting Dynamic Mechanical Systems Using Distributed Memory Parallel Processors," DSC-Vol. 42, Advances in Robotics, pp. 55-61, ASME 1992	_
	C14	Russo, "Controlling Dissipative Magnetic Particle Brakes in Force Reflective Devices," DSC-Vol. 42, Advances in Robotics, pp. 63-70, ASME 1992	
	C15	Kontarinis et al., "Display of High-Frequency Tactile Information to Teleoperators," Telemanipulator Technology and Space Telerobotics, Won S. Kim, Editor, Proc. SPIE Vol. 2057, pp. 40-50, Sep. 7-9, 1993	
	C16	Patrick et al., "Design and Testing of A Non-reactive, Fingertip, Tactile Display for Interaction with Remote Environments," Cooperative Intelligent Robotics in Space, Rui J. deFigueiredo et al, Editor, Proc. SPIE Vol. 1387, pp. 215-222, 1990	
	C17	Adelstein, "A Virtual Environment System For The Study of Human Arm Tremor," Ph.D. Dissertation, Dept. of Mechanical Engineering, MIT. June 1989, archived 3/13/90	
	C18	Bejczy, "Sensors, Controls, and Man-Machine Interface for Advanced Teleoperation," Science, Vol. 208, No. 4450, pp. 1327-1335, 1980	
	C19	Bejczy et al., "Generalization of Bilateral Force-Reflecting Control of Manipulators," Proceedings Of Fourth CISM- IFTOMM, Sep. 8-12, 1981	
	C20	McAffee et al., "Teleoperator Subsystem/Telerobot Demonstrator: Force Reflecting Hand Controller Equipment Manual," JPL 1988, JPL D-5172	_
	C21	Minsky, "Computational Haptics: The Sandpaper System for Synthesizing Texture for a Force-Feedback Display," Ph.D. Dissertation, MIT. June 1995, archived 7/6/05	
	C22	Jacobsen et al., "High Performance, Dextrous Telerobotic Manipulator With Force Reflection," Intervention/ROV '91 Conference & Expanition, Hollywood, Florida, May 21-23, 1991	
	C23	Shimoga, "Finger Force and Touch Feedback Issues in Devterous Telemoniculation," Developing	
	C24	Conference on Intelligent Robotic Systems for Space Exploration, Rensselaer Polytechnic Institute, Sep. 30-Oct. 1, 1992 IBM Technical Disclosure Bulletin, "Mouse Ball-Actuating Device With Force and Tactile Feedback," Vol. 32, No. 9B, February 1990	
	C25	Terry et al., "Tactile Feedback In A Computer Mouse," Proceedings of Fourteenth Annual Northeast Bioengineering Conference, University of New Hampshire, March 10-11, 1988	
	C26	Howe, "A Force-Reflecting Telephorated Hand System for the Study of Testile Service in Decision 1988	
V	C27	Proceedings of the 1992 IEEE International Conference on Robotics and Automation, Nice, France, May 1992 Eberhardt et al., "OMAR - A Haptic display for speech perception by deaf and deaf-blind individuals," IEEE Virtual Reality Annual International Symposium, Seattle, WA, Sep. 18-22, 1993	





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	C28	Rabinowitz et al., "Multidimensional tactife displays: Identification of vibratory intensity, frequency, and contractor area," Journal of The Acoustical Society of America, Vol. 82, No. 4, October 1987
	C29	Bejczy et al., "Kinesthetic Coupling Between Operator and Remote Manipulator," International Computer Technology Conference, The American Society of Mechanical Engineers, San Francisco, CA, August 12-15, 1980
	C30	Bejczy et al., "A Laboratory Breadboard System For Dual-Arm Teleoperation," SOAR '89 Workshop, JSC, Houston, TX, July 25-27, 1989
	C31	Ouhyoung et al., "A Low-Cost Force Feedback Joystick and Its Use in PC Video Games," IEEE Transactions on Consumer Electronics, Vol. 41, No. 3, August 1995
1	C32	Marcus, "Touch Feedback in Surgery," Proceedings of Virtual Reality and Medicine The Cutting Edge, Sep. 8-11, 1994
V	C33	Bejczy, et al., "Universal Computer Control System (UCCS) For Space Telerobots," CH2413-3/87/0000/0318501.00

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U.S. PATENT DOCUMENTS						
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		4,731,603	3/15/88	McRae et al.	· · · · · · · · · · · · · · · · · · ·	
		4,706,294	11/10/87	Ouchida		
		4,484,191	11/20/1984	Vavra		
		4,464,117	8/7/1984	Foerst		
		4,414,984	11/15/83	Zarudiansky		
1		4,333,070	6/1/1982	Barnes		
-		4,262,549	4/21/1981	Schwellenbach		
	_/	4,127,752	11/28/1978	Lowthorp		
		3,919,691	11/11/75	Noli		
Ψ		2,972,140	2/14/1961	Hirsch		
<u> </u>		RE37,374	9/18/01	Roston et al.		

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			JP	H2-185278		7/19/1990	Taito Corporation	
			JP	H4-8381		1/13/1992	Epoch Co. and Key- Planning Co.	
-			JP	H7-24147		1/27/1995	Sega Corporation	
_			JP	H5-192449		8/3/1993	Talto Corporation	
			wo	92/00559		1/9/1992		
			EP	0607580	A1	7/271994		
			EP	0265011		4/27/1988		
			EP	0626634	A2	5/11/1994		
			wo	01/03105		1/11/2001		
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		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS
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		PATRICK, "Design, Construction, and Testing of a Fingertip Tactile Display for Interaction with Virtual and Remote Environments," Master of Science Thesis, MIT, Aug. 1990, archived Nov. 8, 1990.
		CALDER, "Design of A Force-Feedback Touch-Introducing Actuator For Teleoperator Robot Control," Bachelor of Science Thesis, MIT, May 1983, archived June 23, 1983.
		WIKER, "Teletouch Display Development: Phase 1 Report," <i>Technical Report 1230</i> , Naval Ocean Systems Center, San Diego, July 1988.
		BLISS, "Optical-to-Tactile Image Conversion for the Blind," IEEE Transactions on Man-Machine Systems, Vol. MMS-11, No. 1, March 1970.
	,	JOHNSON, "Shape-Memory Alloy Tactile Feedback Actuator," Armstrong Aerospace Medical Research Laboratory, AAMRL-TR-90-039, August, 1990.
		KONTARINIS et al., 'Tactile Display of Vibratory Information in Teleoperation and Virtual Environments,' PRESENCE, 4(4):387-402, Harvard Univ., 1995.
		AUKSTAKALNIS et al., "Silicon Mirage: The Art and Science of Virtual Reality," ISBN 0-938151-82-7, pp. 129-180, 1992.
		EBERHARDT et al., "Inducing Dynamic Haptic Perception by The Hand: System Description and Some Results," DSC-Vol. 55-1, Dynamic Systems and Control: Volume 1, ASME 1994.
		GOBEL et al., "Tactile Feedback Applied to Computer Mice," International Journal of Human-Computer Interaction, Vol. 7, No. 1, pp. 1-24, 1995.
		PIMENTEL et al., "Virtual Reality: through the new looking glass," 2 rd Edition; McGraw-Hill, ISBN 0-07-050167-X, pp. 41-202, 1994.
		Cyberman Technical Specification, Logitech Cyberman SWIFT Supplement to Logitech Mouse Technical Reference and Programming Guide, 4/5/1994.
		OUHYOUNG et al., "The Development of A Low-Cost Force Feedback Joystick and Its Use in the Virtual Reality Environment," Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95, Seoul, Korea, 21-24 August 1995.
		KACZMAREK et al., "Tactile Displays," Virtual Environment Technologies, Chap. 9, pp. 349-414.
		LAKE, "Cyberman from Logitech," at http://www.ibiblio.org/GameBytes/issue21/greviews/cyberman.html, 1994.
\mathbf{V}^{\intercal}		*Component Maintenance Manual With Illustrated Parts List, Coaxial Control Shaker Part no. C-25502,* Safe Flight Instrument Corporation, Revised 28 January 2002 (3 pages).

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